Course Number: ELEM 635 Problems in Science Education
(3 credits)

Course Description
ELEM 635 Problems in Science Education: A practical course in the basic content of the pure and applied sciences, with attention to acquiring techniques for teaching science in the elementary and middle grades and to developing learning activities and instructional units for classroom use.

Disabled Student Services
In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ADA) of 1990, if you have a disability or think you have a disability to please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910 672 – 1203.
Title IX – Sexual Misconduct
Fayetteville State University (University) is committed to fostering a safe campus environment where sexual misconduct — including sexual harassment, domestic and dating violence, sexual assault, and stalking - is unacceptable and is not tolerated. The University encourages students who may have experienced sexual misconduct to speak with someone at the University so that the University can provide the support that is needed and respond appropriately. The Sexual Misconduct policy can be found at the following link: http://www.uncfsu.edu/Documents/Policy/students/SexualMisconduct.pdf

Consulting with a Health Care Professional - A student who wishes to confidentially speak about an incident of sexual misconduct should contact either of the following individuals who are required to maintain confidentiality:

Ms. Pamela C. Fisher
Licensed Professional Counselor
Spaulding Building, Room 165
(910) 672-387
psmith@uncfsu.edu

Ms. Linda Melvin
Director, Student Health Services
Spaulding Building, Room 121
(910) 672-1454
lmelvi10@uncfsu.edu

Reporting an Incident of Sexual Misconduct - The University encourages students to report incidents of sexual misconduct. A student who wishes to report sexual misconduct or has questions about University policies and procedures regarding sexual misconduct should contact the following individual:

Ms. Victoria Ratliff
Deputy Title IX Coordinator for Students
Spaulding Building, Room 155
(910) 672-1222
vratliff@uncfsu.edu

Standards
The course is aligned to the standards of the School of Education’s Conceptual Framework, North Carolina Department of Public Instruction (DPI) Professional Teaching Standards, Fayetteville State University Learning Outcomes for Birth-Kindergarten majors as well as objectives for Service Learning.

Fayetteville State University School of Education Conceptual Framework
The conceptual framework of the School of Education is reflected in this course and establishes a shared vision of its efforts in preparing educators to work effectively in P-12 schools. It defines the educator as a Facilitator of Learning, one who seeks to make the learning process accessible and one who enables learning to take place successfully. This presupposes that the educator is reflective and serves as a catalyst, stimulator, and motivator of the teaching for learning process. The conceptual framework defines the unit’s vision, which underscores the school's purpose for preparing its candidates for teaching and leadership roles in a global society. The unit prepares candidates who support student learning, within the context of family and community participation, for a diverse, technological, and global society. We achieve this vision through teaching, research, and service. Our conceptual framework serves as a lens through which we view our education professionals in the Teacher Education program. The themes of our conceptual framework and associated expectations are:

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<tr>
<th>Conceptual Framework Themes</th>
<th>School of Education Expectations</th>
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<tr>
<td>1. Knowledgeable and Reflective</td>
<td>Candidates should be knowledgeable about their subject matter and the teaching process, and they should use this knowledge to help students succeed academically, and to improve family support of education in a technological and global society.</td>
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<td>2. Respect for Diversity and Individual Worth</td>
<td>Candidates completing our programs develop sensitivity to all types of diversity and practice responsive pedagogy.</td>
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<td>3. Working with Families and Communities</td>
<td>Candidates understand the contemporary family and communities and use that knowledge to help students learn, achieve, and succeed in life.</td>
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<td>4. Technological Competence and Educational Applications</td>
<td>Candidates understand that technology is a tool that supports learning and know how to utilize technology to enhance instruction, learning, research, and data management.</td>
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<td>5. Caring Dispositions and Ethical Responsibility</td>
<td>Candidates completing these programs are caring and ethically responsible teachers and school executives who are committed to working with all learners, diverse families, and promoting the success of all students.</td>
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</tbody>
</table>
6. Communication
Candidates communicate effectively and proficiently with all students, parents, peers, and administrators.

7. Research and Leadership
Candidates completing these programs combine theory and practice in preparation to assume the roles of teacher leaders and school executives. Candidates work to improve the profession and contribute to the establishment of positive working conditions. Candidates are taught to use research to inform practice and to participate in research to expand their knowledge bases.

North Carolina Department of Public Instruction (NCDPI) Professional Teaching Standards
The North Carolina Professional Teaching Standards, developed by NCDPI, are aligned to the expectations and requirements of the course. The standards are identified below and will be posted on Blackboard in their entirety.

| I: Teachers demonstrate leadership | II: Teachers establish a respectful environment for a diverse population of students | III: Teachers know the content they teach | IV: Teachers facilitate learning for their students | V: Teachers reflect on their practice |

Course Outline and Calendar - The Instructor reserves the right to adjust the course outline as deemed necessary by students’ needs.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Assignment Due Dates</th>
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</table>
| Week 1 | Introduction | Introduce yourself on the discussion board  
Due Jan. 17 |
| Week 2 | How did you learn science? | Write a 3-5 page paper on your experience with learning science content in elementary and middle science.  
Due Jan 24th |
| Week 3 | Teaching elementary science article analysis  
**Article Information:**  
*I can’t teach science! A case study of an elementary pre-service teacher’s intersection of science experiences, beliefs, attitude, and self-efficacy* - Mahsa Kazempour  
Penn State University  
**Article Link**  
<p>| Week 4 | Informal Science Education | Review the NEA Science and Math Informal Learning Educators (SMILE) website. |</p>
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<thead>
<tr>
<th>Week 5</th>
<th>Informal Science Education</th>
<th>Write a 2-3 page paper on researched best practices on ways to incorporate informal science experiences in your classroom instruction</th>
<th>Due Feb 28th</th>
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<tbody>
<tr>
<td>Week 6</td>
<td>Science Web resources</td>
<td>Create a list of 20 web resources that relate to K-8 science instruction</td>
<td>Due March 14th</td>
</tr>
<tr>
<td>Week 7</td>
<td>Web resources</td>
<td>Create a lesson plan that incorporates one of the web resources. Teach the lesson and write 2-3 page paper about the experience</td>
<td>Due March 28th</td>
</tr>
<tr>
<td>Week 8</td>
<td>Web resources</td>
<td>Create a lesson plan that incorporates one of the web resources. Teach the lesson and write 2-3 page paper about the experience</td>
<td>Due April 4th</td>
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<tr>
<td>Week 9</td>
<td>Spring Break</td>
<td></td>
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<tr>
<td>Week 10 and 11</td>
<td>Teaching Science through Inquiry Article Analysis</td>
<td>Due April 11th</td>
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<tr>
<td>Week 12 and 13</td>
<td>Inquiry Based Science Teaching</td>
<td>Write a 2-3 page paper on researched best practices on ways to incorporate inquiry based science methods in your classroom instruction</td>
<td>Due April 18th</td>
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<tr>
<td>Week 14-16</td>
<td>Unit Plan</td>
<td>Develop a 8 week Science unit plan that is inquiry focused. The unit should celebrate diversity as well incorporate technology. Due May 2nd</td>
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**Grading Procedures:** Please refer to the scoring rubric that accompanies each assignment for the specific criteria that will be used to evaluate that assignment.

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<tr>
<th>Grading Scale</th>
<th>Letter Grade</th>
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<tr>
<td>1000-900</td>
<td>A</td>
</tr>
<tr>
<td>899-800</td>
<td>B</td>
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Institutional Guidelines

Academic Integrity - Dishonesty in Academic Affairs
Acts of dishonesty in any work constitute academic misconduct. Such acts include cheating, plagiarism, misrepresentation, fabrication of information, and abetting any of the above. Plagiarism in particular presents pitfalls to be avoided: failure to document any words, ideas, or other contributions that do not originate with the author constitutes plagiarism. Widespread use of the World Wide Web (Internet) requires particular attention to proper documentation practices. Individual course syllabi offer additional clarification about requirements for proper documentation. Actions outlined in the Fayetteville State University Student Handbook under Disciplinary System and Procedures will be followed for incidents of academic misconduct. The handbook may be obtained from the Office of Student Affairs located in the Collins Administration Building.  *Fayetteville State University Undergraduate Catalog pg. 85

Please note that the WN grade is no longer in effect. Students must follow university protocol and announced deadlines (see calendar on www.uncfsu.edu) to withdraw from a class.

Grade of Incomplete
A grade of incomplete will only be assigned upon mutual agreement between instructor and student and in the case of extremely extenuating circumstances. Extenuating circumstances might include significant health issues or death in the immediate family. A contract will be developed between student and instructor outlining a plan for course completion and deadline for work to be submitted.

Withdrawal from Class
Complete the form available on the registrar’s website [http://www.uncfsu.edu/registrar/forms.htm](http://www.uncfsu.edu/registrar/forms.htm), obtain signatures from instructor and advisor, then return completed form to Registrar’s office. You will not receive any refund of tuition and fees for withdrawing from a class. You should strive to earn credit for any and all classes you are enrolled in. If you are withdrawing from all the courses in which you are enrolled, even if you are enrolled in only one course, you must withdraw from the university. Excessive withdrawals will jeopardize your financial aid. Ask Financial Aid about the 67% rule. Effective fall 2009 you will be permitted five no-penalty class withdrawals only. After 5 they will be calculated as “F”.

Withdraw from the University
Withdraw from University means you are withdrawing from all classes for the semester due to circumstances that prevent you from being able to complete classes. Locate the deadlines for the drop/add period and withdrawal at the Office of the Registrar’s website: [http://www.uncfsu.edu/registrar/index.htm](http://www.uncfsu.edu/registrar/index.htm) Also, in addition to your instructor, contact the Center for Personal Development at (910) 672 1203/1222 for additional support and information regarding special circumstances that prevent you from being able to complete classes

Disability Statement
“Fayetteville State University is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, gender, age, or disability. Moreover Fayetteville State University values diversity and actively seeks to recruit talented students, faculty, and staff from diverse backgrounds.” *FSU Undergraduate Catalog, 2011-2012

FSU Policy on Electronic Mail
Fayetteville State University provides to each student, free of charge, an electronic mail account ([username@uncfsu.edu](mailto:username@uncfsu.edu)) that is easily accessible via the Internet. The university has established FSU email as the primary mode of correspondence between university officials and enrolled students. Inquiries and requests from students pertaining to academic records, grades, bills, financial aid, and other matters of a confidential nature must be submitted via FSU email. Inquiries or requests from personal email accounts are not assured a response. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail. Rules and regulations governing the use of FSU email may be found at [http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf](http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf)

Inclement Weather
We will follow the Fayetteville State University inclement weather schedule. Please consult the university webpage, local radio and television statements for announcements. *Blackboard Announcements with accompanying email will be the mode of correspondence this instructor uses to alert students to changes due to extenuating circumstances.*